

WHAT IS CLAIMED IS:

Sub B3
1. A circular-shaped metal structure fabricated by plastic working and having a thickness equal to or smaller than 0.09 mm.

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2. The circular-shaped metal structure as set forth in claim 1, wherein said circular-shaped metal structure has no seams extending in an axis-wise direction thereof.

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3. The circular-shaped metal structure as set forth in claim 1, wherein a reduction rate of a thickness of said circular-shaped metal structure after plastic-worked to a thickness of said circular-shaped metal structure before plastic-worked is equal to or greater than 40%.

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4. The circular-shaped metal structure as set forth in claim 1, wherein said circular-shaped metal structure has a Vickers hardness Hv equal to or greater than 380 after plastic-worked.

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5. The circular-shaped metal structure as set forth in claim 1, wherein said circular-shaped metal structure has a Vickers hardness Hv in the range of 100 to 250 both inclusive after plastic-worked and then annealed.

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6. The circular-shaped metal structure as set forth in claim 1, wherein said plastic working is spinning working.

7. A method of fabricating a circular-shaped metal structure, comprising the steps of:

(a) rotating a pipe around an axis thereof, said pipe being composed of a plastic-workable metal; and

(b) applying drawing to an outer wall of said pipe with said pipe being kept rotated, to reduce a wall thickness of said pipe and lengthen a wall of said pipe.

8. The method as set forth in claim 7, further comprising the step (c) of
5 annealing said pipe, said step (c) being to be carried out between said steps (a) and (b).

9. The method as set forth in claim 7, further comprising the step (d) of
10 cutting opposite ends of said pipe, said step (d) being to be carried out subsequently to said step (b).

10. The method as set forth in claim 9, further comprising the step (e) of
annealing said pipe, said step (e) being to be carried out subsequently to said step
(d).

11. The method as set forth in claim 7, wherein said plastic-workable metal
is selected from a group consisting of a stainless steel, a rolled nickel, a nickel
alloy, titanium, a titanium alloy, tantalum, molybdenum, hastelloy, permalloy, a
marageing steel, aluminum, an aluminum alloy, copper, a copper alloy, pure iron
20 and a steel.

12. The method as set forth in claim 7, wherein said pipe includes a pipe
having a bottom and a pipe having no bottom.

13. An apparatus for fabricating a circular-shaped metal structure,
25 comprising:

(a) a pipe rotator which rotates a pipe around an axis thereof, said pipe being
composed of a plastic-workable metal;

(b) a jig for carrying out drawing;

(c) a first device which moves said jig in a direction perpendicular to said axis of said pipe; and

(d) a second device which moves said jig in a direction parallel to said axis of said pipe.

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14. The apparatus as set forth in claim 13, wherein said jig has a tip end having an acute angle.

15. The apparatus as set forth in claim 13, wherein said jig is comprised of a roller.

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Sub 34
16. A photosensitive drum to be used in an electrophotographic printer, said photosensitive drum being comprised of a circular-shaped metal structure fabricated by plastic working and having a thickness equal to or smaller than 0.09

15 mm.

17. A photosensitive drum to be used in an electrophotographic printer, said photosensitive drum being comprised of a circular-shaped metal structure to be fabricated by a method including the steps of:

20 (a) rotating a pipe around an axis thereof, said pipe being composed of a plastic-workable metal; and

(b) applying drawing to an outer wall of said pipe with said pipe being kept rotated, to reduce a wall thickness of said pipe and lengthen a wall of said pipe.

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18. A fixing belt to be used in an electrophotographic printer, said fixing belt being comprised of a circular-shaped metal structure fabricated by plastic working and having a thickness equal to or smaller than 0.09 mm.

19. A fixing belt to be used in an electrophotographic printer, said fixing belt

being comprised of a circular-shaped metal structure to be fabricated by a method including the steps of:

- (a) rotating a pipe around an axis thereof, said pipe being composed of a plastic-workable metal; and
- 5 (b) applying drawing to an outer wall of said pipe with said pipe being kept rotated, to reduce a wall thickness of said pipe and lengthen a wall of said pipe.

20. A roller assembly comprising:

- (a) at least two rollers arranged such that axes of said rollers are directed in
- 10 parallel to each other; and
- (b) a belt wound around said rollers,
said belt being comprised of a circular-shaped metal structure fabricated by plastic working and having a thickness equal to or smaller than 0.09 mm.

15 21. A roller assembly comprising:

- (a) at least two rollers arranged such that axes of said rollers are directed in parallel to each other; and
- (b) a belt wound around said rollers,
said belt being comprised of a circular-shaped metal structure to be
- 20 fabricated by a method including the steps of:
 - (a) rotating a pipe around an axis thereof, said pipe being composed of a plastic-workable metal; and
 - (b) applying drawing to an outer wall of said pipe with said pipe being kept rotated, to reduce a wall thickness of said pipe and lengthen a wall of said pipe.